Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

DESCRIPTIONS OF NEW SPECIES OF AMERICAN LAND AND FRESH-WATER SHELLS.

BY JAMES LEWIS, M.D.

In my paper on the Land Shells of East Tennessee, published in the Amer. Journ. Conch. vi., 188, may be found some remarks upon certain shells treated on page 191 as a large variety of *Helix Sayii.* The shells upon which the remarks here referred to were based, were mutilated specimens, in which some of the characteristics of the species they represented were not clearly attested. Since the publication of the above-mentioned paper additional specimens have been secured, which leave nothing to be inferred as to the true character of the species which is now unhesitatingly presented as new.

Mesodon [Helix] Chilhoweënsis, Lewis.

Shell of large size, umbilicated, convex-depressed; epidermis, pale russet, scarcely paler below; *whorls six to seven* with numerous and somewhat coarse striæ; suture well impressed; peristome white, *well developed* and *widely reflected*, with a *faint rudimentary tooth* indicated near the umbilical region; *parietal wall without any indication of a tooth;* in other particulars the shell may be compared with the species hitherto known as Helix Sayii.

Chilhowee Mountain, East Tennessee, 1869.

Tusquita Bald Mountain (6600 feet elevation), East Tennessee. 1873.

The following are the dimensions of two specimens from the last-named station.

1st. Greatest diameter 1.65 inches = 42 mm. Least diameter 1.32 inches = 33.8 mm. Elevation (parallel to axis) 1.03 inches = 26.3.

2d. Greatest diameter 1.57 inches = 49.9 mm. Least diameter 1.28 inches = 32.7. Elevation 0.94 inches = 23.8 mm. [See Plate 12, figures 5, 6, 7, Amer. Journ. Conch. vi.]

Remarks.—This species will be found uniformly to differ from H. Sayii (a large variety of which it was supposed to be), by having *one more whorl*, a more *broadly reflected lip*, the extremely rudimentary character of the tooth when present on the lip, and by the entire suppression of the parietal tooth, without reference to the larger size of the shell. The species seems to be confined to high elevations on the mountains in east Tennessee and western North Carolina. I am indebted to Miss A. E. Law for all the specimens of this species I have seen.

Zonites acerra, Lewis.

In the paper quoted above, on page 190, mention is made of a shell supposed to be a variety of *Zonites ligerus* of W. G. Binney.[1] The shells when first brought to notice were supposed to be undescribed, but having characters which belong equally to *demissus* and *ligerus* (Binney) it was treated as a variety of *ligerus*, though the name *acerra* was suggested as applicable if new.

I am induced by a careful study of this form to regard it as having quite as valid a claim to be regarded a distinct species as *demissus* has, it being different from that species in several important particulars which, so far as I have traced them, seem to be constant. The notes and figures given, relative to this species, render a formal description of the species unnecessary.

The shell has a cubic capacity more than four times that of *demissus*, being less pale, usually more translucent, and the opaque portions have a decided Canary-yellow tint.

This shell is found in the elevated lands in east Tennessee and western North Carolina, and no doubt has been circulated as *demissus*.

Among the numerous land shells collected by Miss Law, in Knox and Monroe Counties, Tennessee, I found a few specimens of a ZONITES very like Anthony's *cerinoidea* with this difference—the shells have two internal lamellar teeth, in some cases arising *obliquely* within the aperture and *pointing outwardly*, differing somewhat in form from the teeth of *gularis*. The question arises, is *cerinoidea* dimorphic as to the presence or absence of the internal teeth? I have numerous examples showing that the internal teeth of *gularis* are by no means constant. If the shells I here compare to *cerinoidea* are really a variety of that species, they may be

[1] I speak of "*Zonites ligerus* of W. G. Binney," because I am aware that there are traditions respecting the species now generally accepted as *ligerus* and *intertextus*, which call for a different nomenclature. The shells now known as *intertextus* are the traditional "*Helix ligera*" of Say; the tradition undoubtedly having its origin with Mr. Say, who surely ought to have the credit of knowing his own species. This understanding of the matter makes it quite easy also to recognize the claims of Mr. Lee to the species he described as *Helix Wardiana*.

distinguished as var. *cuspidata*. If, however, they should finally be considered distinct, the name may be retained as characterizing the species.

Vitrina latissima, Lewis, Plate 23, fig. 7.

Shell very much depressed, thin, fragile, translucent, polished; whorls three, very rapidly expanded, with the incrimental lines quite conspicuous and crossed by a few microscopic, impressed, revolving lines; aperture nearly equal to half the area of the base of the shell, very oblique, unsymmetrically-ovate; peristome thin and acute, the columellar origin arising from the axis of the shell; axis imperforate; color of the shell amber-brown.

Transverse diameter 0.68 inches = 17.3 mm. Shorter diameter 47 inches = 11.9 mm. Elevation .27 inches = 7.1 mm.

Tusquita Bald Mountain, at an elevation of 6600 feet. Miss A. E. Law.

A single specimen of this interesting species is all that is at present known. It is remarkable for the entire absence of elevation of the apical whorl above the surrounding whorls, and for its generally depressed and laterally expanded form. The color of the shell is very like that usually exhibited by translucent specimens of Helix [Triodopsis] palliata. The form of the shell forcibly reminds one of the marine shells usually designated *Sigaretus perspectivus*. It will probably be found on several of the mountain peaks of east Tennessee at high elevations.

Melantho obesus, Lewis, MSS., Plate 23, figs. 5, 6.

W. G. Binney, in "Land and Fresh-water Shells of North America," Smithsonian Miscellaneous Collections, No. 144, page 47, fig. 95. No description.

Shell ventricose and disposed to be gibbous; whorls, 6 to 7, rounded, the last dilated; suture well defined and deeply impressed; apex only moderately elevated; epidermis smooth and olivaceous; lines indicating well-defined periods of growth strongly marked and black; surface of the shell traversed with numerous impressed revolving lines; in some localities the revolving lines are mingled with narrow, interrupted, rufous tracings that impart a ferruginous tint to the epidermis; opercle ovate gibbous; substance of the shell only moderately thick, with a tendency in favorable localities to form callosities on the parietal portion of the posterior angle of the aperture; aperture ample and tends to assume a subquadrate form.

Length 1.33 inches = 34 mm. Greatest width 0.95 inches = 24 mm. These dimensions are subject to variation of an extreme character.

Ohio Canal, Columbus, Ohio. H. M. Moores. (Fig. 5.)

Michigan. O. M. Dorman. (Fig. 6.)

In treating Melantho, there seems to have been numerous instances in which species have been misunderstood. *M. obesus* has been confounded with shells occurring in New York with which apparently it has only very remote relations.

In my most recent examinations of *Melantho*, as it occurs in a limited portion of the Erie Canal, near Mohawk, N. Y., I detect three species associated, each constant in its characters without manifesting any tendency to hybridism. A fourth species may possibly be inferred from a division of the various forms I have hitherto regarded as varieties of *integer*.

To make this clear to the reader, I have thought proper to offer a series of figures illustrating the characteristics by which I have made a division.

The prevailing form is illustrated by Fig. 1 of this series. It represents a shell, the whorls of which are very regularly rounded without any tendency to assume gibbous forms. The opercle of the adult shells of this form is very transverse and narrow, resembling that of the typical *ponderosus* of the Ohio River. The texture of the shell is less solid than the gibbous forms exhibit, and the epidermis is much paler. The form of *Melantho* is here illustrated by a specimen more *slender* in its proportion than a typical shell should be.

The gibbous forms, as may be inferred from what has been written above, are more solid in their texture and have a darker epidermis. They are usually also more regularly *smooth*, though gibbous. I have selected three examples as illustrations of the features this form of *Melantho* displays. Fig. 2 may be regarded as approximating the least gibbous phase, and would probably be regarded as one of the *shouldered* specimens of which DeKay wrote. Fig. 3 is a form which W. G. Binney confounds with *obesus*, from which it is sufficiently distinct not to require further notice at this time. Fig. 4 is an extreme form in which the aberrant tendencies of this race of mollusks has been exaggerated by abnormal conditions. These and many other forms in my collection, all part of one series, go far to show that it is unsafe to attempt to decide the limits of species from a few specimens.